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cers were elected: *President*, Dr. Lewellys F. Barker; *Vice-presidents*, Dr. Charles W. Eliot and Dr. William H. Welch; *Treasurer*, Otto T. Bannard; *Medical Director*, Dr. Thomas W. Salmon; *Secretary*, Clifford W. Beers; *Executive Committee*, Dr. August Hoch, chairman, Dr. George Blumer, Professor Stephen P. Duggan, Dr. William Mabon, Dr. William L. Russell and Dr. Lewellys F. Barker; *Finance Committee*, Professor Russell H. Chittenden, chairman, Otto T. Bannard, Dr. Henry B. Favill and William J. Hoggson; *Committee on Mental Deficiency*, Dr. Walter B. Fernald, chairman, Dr. L. Pierce Clark, Professor E. R. Johnstone, Dr. Charles S. Little and Dr. Albert C. Rogers.

THE twenty-seventh session of the biological laboratory of the Brooklyn Institute of Arts and Sciences, located at Cold Spring Harbor, will be held in the summer of 1916. Special facilities are offered to investigators and two scholarships of \$100 each are available for such. Courses are given in field zoology by Drs. Walter and Kornhauser; in bird study by Mrs. Walter and Dr. Ehinger; in comparative anatomy by Dr. Pratt and Mr. Hine; in beginning investigation, especially in animal bio-nomics and genetics by Drs. Davenport, Pratt and Walter; in cryptogamic botany by Dr. H. H. York; in systematic and field botany by Dr. Harshberger and Mr. Miller and in training for eugenical field work by Dr. Davenport and Mr. Laughlin. Class work begins on July 5; tuition is \$30. The new announcement may be obtained from, and application for scholarships made to, Dr. C. B. Davenport, Cold Spring Harbor, Long Island, N. Y.

THE *Journal* of the American Medical Association states that the Amsterdam Genootschap ter Bevordering van Natuur-, Genees- en Heelkunde founded in 1790, held recently its one hundred and twenty-fifth annual meeting when Dr. C. C. Delprat reviewed its history and achievements. The address is published in the opening number of the *Nederlandsch Tijdschrift voor Geneeskunde* for 1916, which begins its sixtieth year. It is accompanied by a dozen engravings showing the amphitheater for teaching of anatomy, 1690; lecture room,

1760; hospital, 1763, and a number of early officers of the society. The gala meeting was presided over by Professor G. van Rijnberk, who is also editor of the *Tijdschrift*. The society awards the Swammerdam medal every tenth year. The four recipients have been the Germans, Siebold, Haeckel and Gegenbaur, and the Netherlands scientist, Hugo de Vries. The Tilanus medal has been awarded every five years since the death of this eminent surgeon. It is given for the best work on some surgical or medical subject, and has been awarded to Zwaardemaker, C. de Mooy, L. Bolk and J. Boeke, all of the Netherlands. The society also distributes some stipends to medical students for study abroad, and has officially contributed to a number of endowment funds in honor of various foreign scientific men.

UNIVERSITY AND EDUCATIONAL NEWS

THE University of Buffalo has received actual and provisional endowment for the new department of arts and sciences amounting to \$750,000. \$100,000 of this sum to be given outright by Mrs. Seymour H. Knox, who, with her children, proposes to increase this eventually to a total of \$500,000. \$250,000 is given by General Edmund Hayes for the first building upon the university site, provided \$1,000,000 be raised for like purposes before June, 1919.

PRESIDENT GOODNOW at the commencement exercises of the Johns Hopkins University, on February 22, announced that the Consolidated Gas Company of New York, the American Gas Company of Philadelphia and the Consolidated Gas Company of Baltimore had interested themselves in the establishment of a laboratory at the university for research work as to the possibilities of coal tar products. The purpose is to develop the aniline dye industry and other important branches in the coal tar field.

THE Graduate School of Agriculture will be held at the Massachusetts Agricultural College July 3-28, 1916. This school is under the auspices of the Association of American Agricultural Colleges and Experiment Stations. Dr.

A. C. True, of Washington, D. C., is the dean of the school, and the assistant dean is Professor Charles E. Marshall, director of the graduate school and professor of microbiology at the Massachusetts College. The school is open to all college graduates. Its purpose is for the study of the recent development in the natural, social and economic sciences as applied to agriculture, as well as in the technical branches of the so-called practical agriculture. Courses are offered in (1) growth, (2) production, (3) rural organization, (4) agricultural education, (5) distribution-marketing, (6) land problems, (7) adjunct course in physico-chemico-physiological elements, (8) special lectures and conferences.

FROM May 1 to November 30, fourth-year medical students at Toronto will be given a summer course to qualify for their degree, and there will be no fifth-year course next year at the university. The summer session will last twenty-six weeks. There will be sixty men who will attend the summer session, and when they graduate they will be in a position to accept positions with the various hospital units. It is understood that Queen's University, Kingston, will take a similar step.

THE trustees of Northwestern University at their last meeting filled the vacancy in the deanship of the dental school, which occurred through the death of Dr. Greene Vardiman Black on August 31 of last year, by the election of Thomas Lewis Gilmer, M.D., D.D.S., Sc.D.

AT Smith College, Dr. Joel E. Goldthwaite has been appointed professor of hygiene and physical education, and Miss Pauline Sperry, assistant professor of mathematics. Miss Harriet R. Cobb has been promoted to be professor of mathematics; Dr. Mary M. Hopkins to be associate professor of astronomy, and Mrs. Anna B. Newell to be assistant professor of zoology.

AT Harvard University Dr. Dunham Jackson has been promoted to an assistant professorship of mathematics.

THE chair of botany in the Alabama Polytechnic Institute and Agricultural Experiment

Station, vacant by the resignation of Dr. J. S. Caldwell to take up the position of "By-Products Specialist" for the Washington Agricultural Experiment Station, has been filled by the appointment of W. J. Robbins, Ph.D. (Cornell), instructor in botany in the New York State College of Agriculture.

DISCUSSION AND CORRESPONDENCE

THE FUNDAMENTAL EQUATION OF MECHANICS

MR. KENT'S recent letter on the "Teaching of Elementary Dynamics,"¹ with much of which I heartily agree, contains one serious error which I think should not pass unnoticed. As this error seems to me a not unnatural result of one feature of his favorite method of beginning the study of mechanics, I should like to take this opportunity to summarize, in a brief review, the three methods of beginning mechanics which have been advocated respectively by Mr. Kent, Professor Hoskins and myself.² To do this, I propose first to state briefly certain *dynamical principles on which we all agree*; I shall then endeavor to show that precisely these non-disputed facts *are all that the student needs to know in order to solve dynamical problems, provided he follows my method*. It is only when he endeavors to follow one of the other methods that he is led into controversial territory. If undisputed facts are sufficient for the solution of problems, why burden the student's mind (except as a matter of historical interest) with needless disputations?

I. The following statements will, I believe, be accepted as true by all of us, though the emphasis placed on the various items would doubtless vary.

1. A *force* is a familiar notion which may be thought of as a push or a pull. Any given force may be *identified*, that is, preserved for

¹ SCIENCE, December 24, 1915.

² See articles in SCIENCE by L. M. Hoskins, December 4, 1914, April 23, May 7, August 27 and September 10, 1915; by E. V. Huntington, February 5 and July 30, 1915; and by William Kent, March 19 and December 24, 1915.